US007211720B1

(12) **United States Patent**
Dorfman et al.

(10) **Patent No.: US 7,211,720 B1**
(45) **Date of Patent: May 1, 2007**

(54) **ADJUSTABLE BASS DRUM BEATER**

(75) Inventors: **Michael Dorfman**, Prairie View, IL (US); **George Szwaya**, East Troy, WI (US); **Robert E. Szwaya**, Milwaukee, WI (US)

(73) Assignee: **Trick Percussion Products, Inc.**, Schaumburg, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **11/254,977**

(22) Filed: **Oct. 20, 2005**

(51) **Int. Cl.**
G10D 3/16 (2006.01)

(52) **U.S. Cl.** **84/322.1**

(58) **Field of Classification Search** 84/422.1, 84/422.2, 422.3, 422.4
See application file for complete search history.

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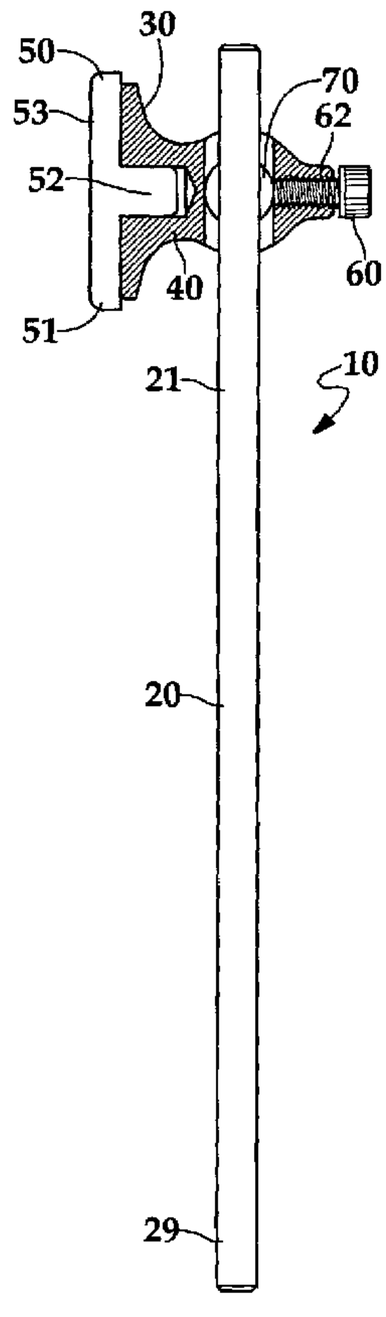
Primary Examiner—Kimberly Lockett
(74) *Attorney, Agent, or Firm*—Beem Patent Law Firm

(57) **ABSTRACT**

A bass drum beater may include a shaft having a length, a beater head fixable to a selected position along the length, and a connector engageable to the beater head and to the shaft to secure the position. The beater head may form an angle with respect to the shaft and the angle may be adjustable along a range, which may be about 20 degrees to either side of perpendicular. A bass drum beater may also include a shaft, a beater head having a drumward side and a hole to engage the shaft, a beater face attachable to the drumward side, and a means for holding the beater head in a longitudinal position and an angular position with respect to the shaft, wherein the longitudinal position and the angular position are adjustable. The means may include a bushing around the hole and a screw engaging the bushing.

11 Claims, 2 Drawing Sheets



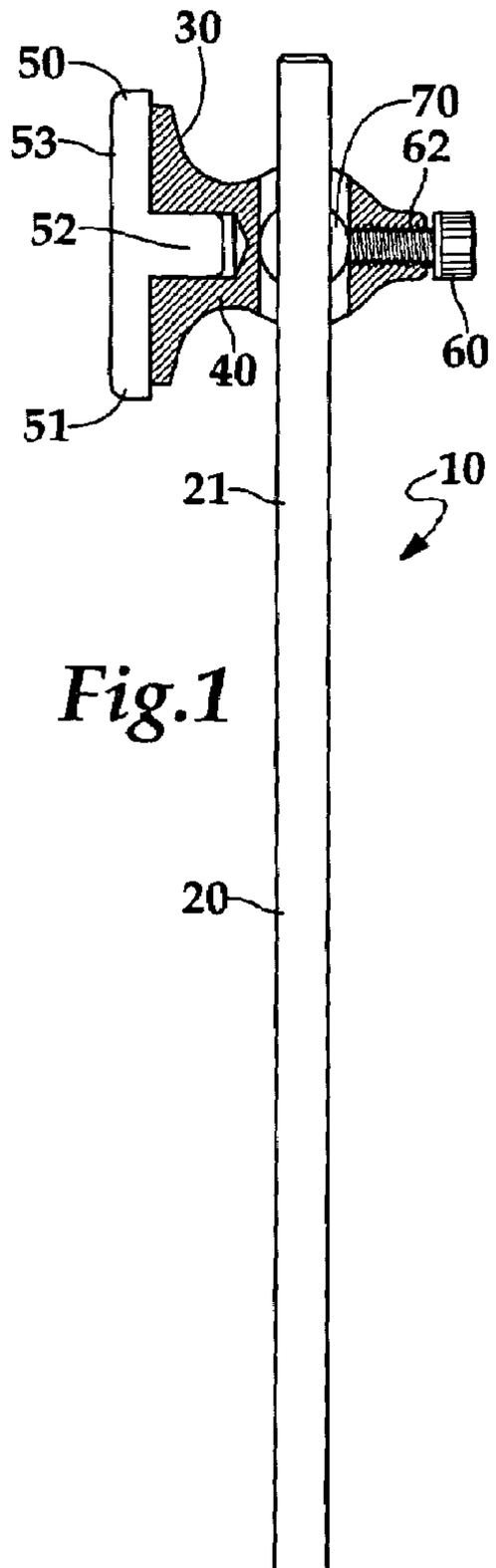


Fig.1

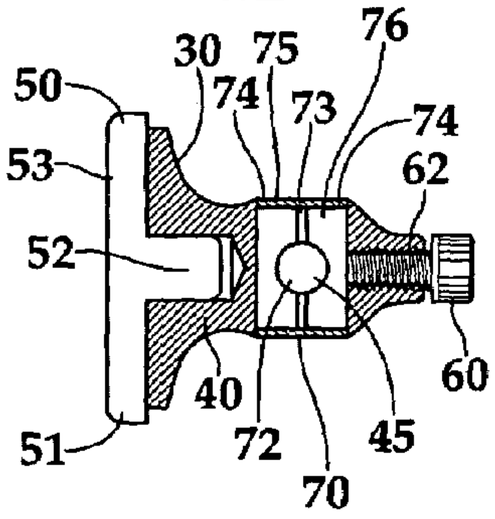


Fig.2

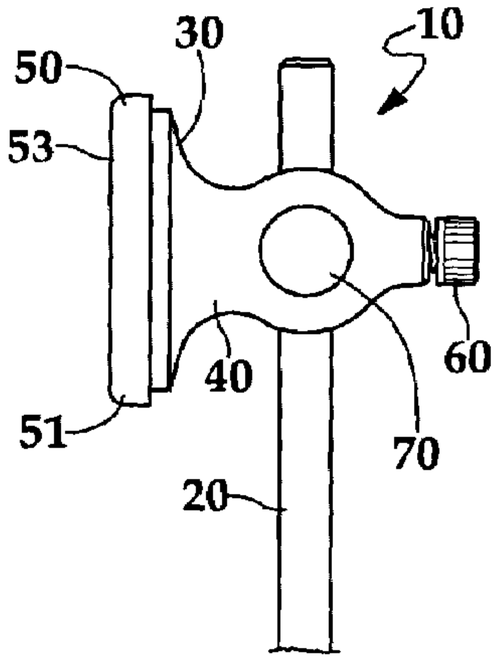


Fig.3

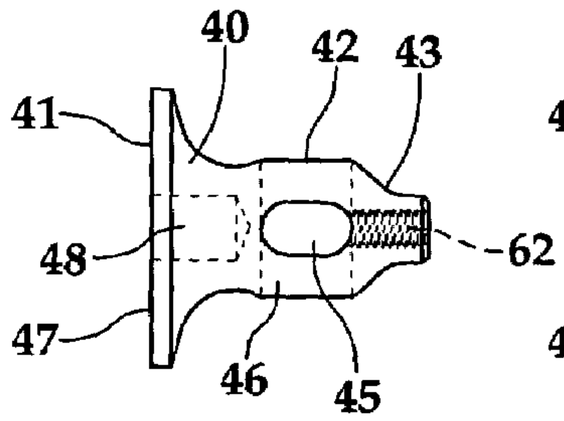


Fig.4

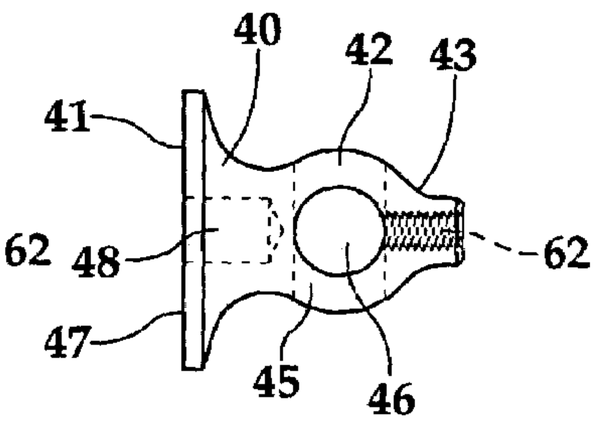


Fig.5

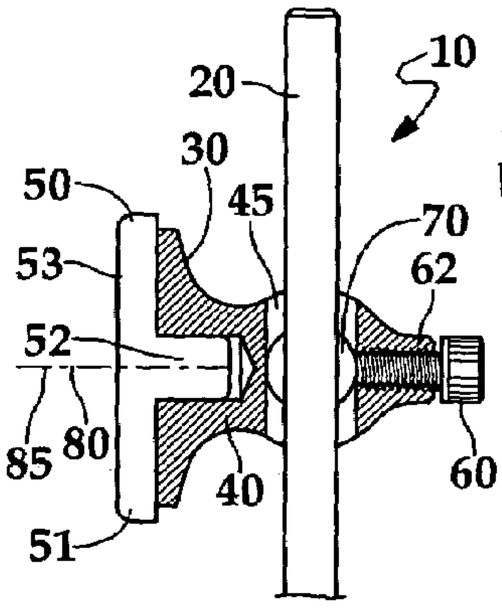


Fig.6

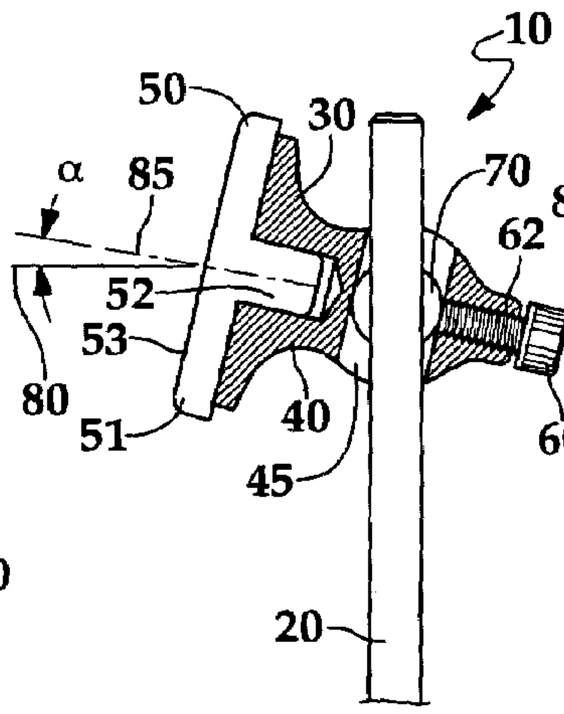


Fig.7

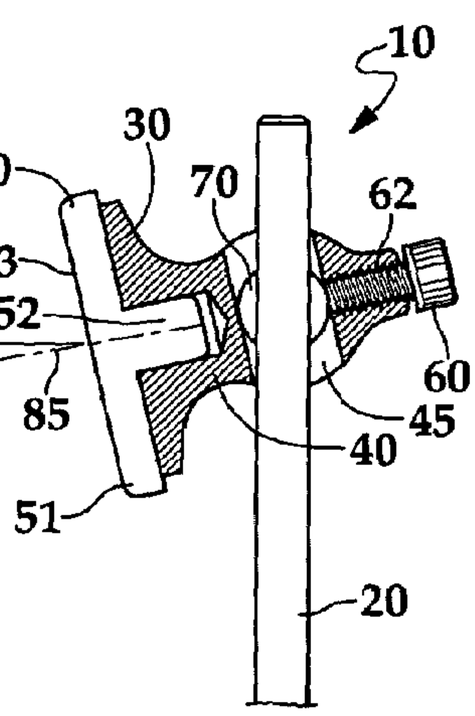


Fig.8

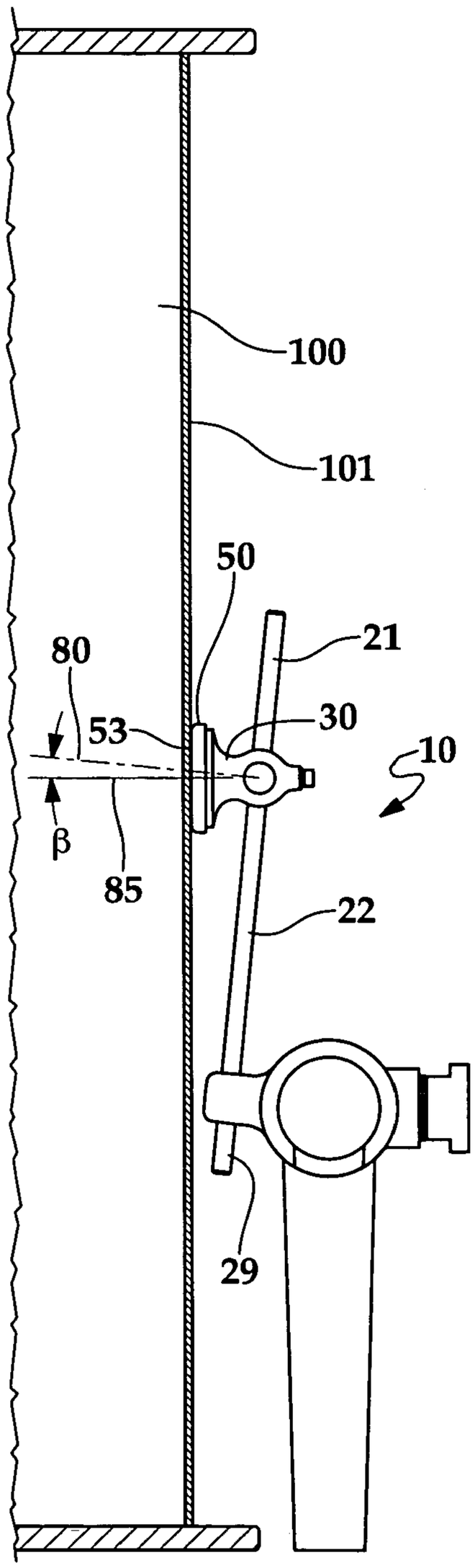

100
101
50
21
80
53
30
10
β
85
22
29

Fig.9

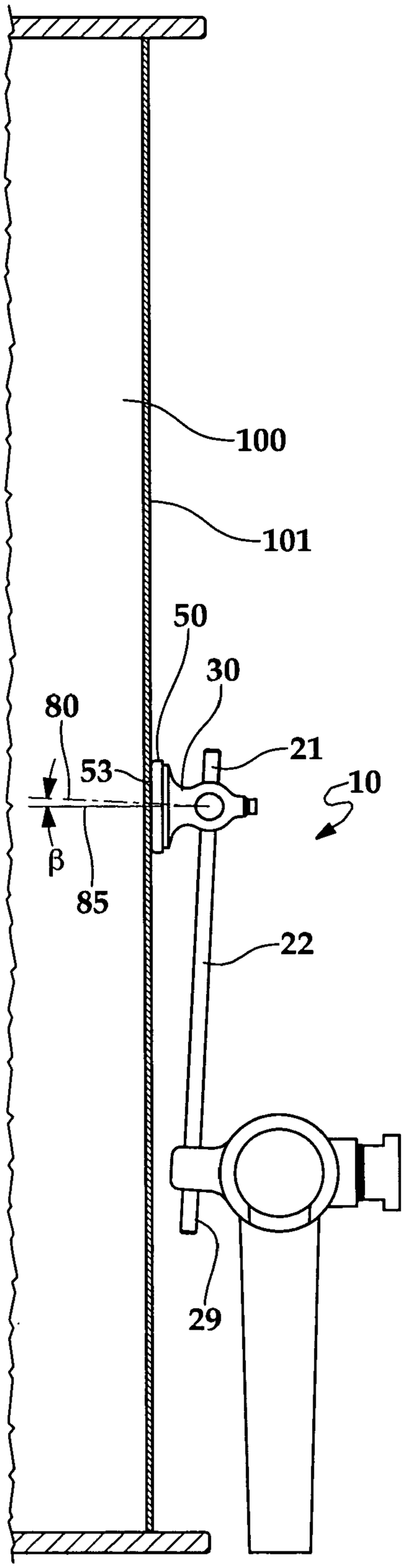

100
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Fig.10

ADJUSTABLE BASS DRUM BEATER

BACKGROUND

1. Field of the Invention

This invention is directed to bass drum beaters, specifically a bass drum beater that adjusts to give drum players more options in equipment setup.

2. Brief Description of the Prior Art

A bass drum beater is operated by a drum pedal in conjunction with a player's foot to contact the surface of a bass drum. A bass drum is set up with a drum surface facing the front of a drum pedal. A bass drum beater usually comprises a shaft with a beater head at one end. The shaft is held by the drum pedal and the beater head swings in an arc when the drum pedal is depressed and contacts the drum surface.

Bass drums may come in different sizes and the floor upon which the drum is placed may not be even with the floor upon which the pedal is placed. In these circumstances, it may be beneficial to have a means for adjusting the bass drum beater so that the beater head hits the drum surface to produce the desired sound and tone. The bass drum beater may be placed so that the distance between the drum pedal and the beater head is longer or shorter, depending upon the desired contact position with respect to the bass drum. However, shortening the length of the distance from the drum pedal to the beater head usually involves shifting the position of bass drum beater as it is held by the drum beater and may result in the bottom of the shaft hitting the drum pedal or the drum head.

SUMMARY

The present invention provides a bass drum beater which may include a shaft having a length, a beater head fixable to a selected position along the length, and a connector engageable to the beater head and to the shaft to secure the position. The length of the shaft may be between about 6 inches and about 10 inches. The beater head may form an angle with respect to the shaft and the angle may be adjustable along a range, which may be about 20 degrees to either side of perpendicular. The shaft may be made from titanium and the beater head may be made from aluminum.

In another aspect of the invention, a bass drum beater may also include a shaft, a beater head having a drumward side and a hole to engage the shaft, a beater face attachable to the drumward side, and a means for holding the beater head in a longitudinal position and an angular position with respect to the shaft, wherein the longitudinal position and the angular position are adjustable. The means may include a bushing around the hole and a screw engaging the bushing. The bushing may have arms which are in contact with the shaft, and the screw may force one of the arms against the shaft.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is an elevation view of a cross section of a bass drum beater.

FIG. **2** is top view of a cross section of a beater head.

FIG. **3** is a side view of a beater head engaged to a top portion of a shaft.

FIG. **4** is a top view of a cross section of a beater body.

FIG. **5** is an elevation view of a cross section of a beater body.

FIG. **6** is an elevation view of a cross section of a bass drum beater engaged to a top portion of a shaft.

FIG. **7** is an elevation view of a cross section of a bass drum beater with a beater head angularly rotated upward and engaged to a top portion of a shaft.

FIG. **8** is an elevation view of a cross section of a bass drum beater with a beater head angularly rotated downward and engaged to a top portion of a shaft.

FIG. **9** is an elevation view of a cross section of a bass drum beater held in a drum pedal mechanism striking the surface of a small bass drum.

FIG. **10** is an elevation view of a cross section of a bass drum beater held in a drum pedal mechanism striking the surface of a large bass drum.

DETAILED DESCRIPTION OF THE INVENTION

As shown in FIG. **1**, bass drum beater **10** may include shaft **20** having a length, beater head **30** fixable to a selected position on shaft **20**, and a connector engageable to beater head **30** and to shaft **20** to secure the position. As shown in FIG. **1**, bass drum beater **10** may include shaft **20** and beater head **30**.

Beater head **30** may be selectively positioned along the entire length of shaft **20** to strike a bass drum. Preferably beater head may be positioned along top portion **21** of shaft **20**. Loosening screw **60** within screw hole **62** loosens bushing **70** and allows beater head **30** to slide along shaft **20**. Preferably beater head **30** may be positioned on top portion **21** of shaft **20**. Tightening screw **60** in screw hole **62** may cause screw to contact a connector in beater head **30** and locks beater head **30** to a position along the length of shaft **20**. In one embodiment, the connector may be bushing **70**.

As shown in FIGS. **1**, **9** and **10**, shaft **20** may have top portion **21** and bottom portion **29**. Bottom portion **29** may be held in a drum pedal and beater head **30** normally may be positioned along top portion **21**. Shaft **20** may be between about 6 inches and about 10 inches, preferably between about 7 inches and about 9 inches, and in one embodiment may be about 8 inches. Construction of shaft **20** may include titanium. The diameter of shaft **20** may be between about 0.1 inches and about 0.4 inches, preferably between about 0.2 inches and about 0.3 inches, and in one embodiment about 0.25 inches.

As shown in FIGS. **2**–**5**, beater head **30** may include beater body **40** which may be of unitary construction. In one embodiment (not shown), beater body **40** may be integral with beater face **50**. As shown in FIG. **3**, beater head **30** may engage shaft **20** through bushing **70** which may act as a connector engageable to both beater head **30** and to shaft **20**. As shown in FIGS. **3** and **5**, from the side, beater body **40** may be bugle-shaped with face portion **41** flaring out from midportion **42**, and a pointed back portion **43**.

As shown in FIGS. **4** and **5**, beater head **30** has four holes, stem hole **48**, shaft hole **45**, screw hole **62**, and bushing hole **46**. Stem hole **48** extends inwardly from face surface **41** on face portion **41** between about 0.2 inches and about 0.6 inches, and in one embodiment about 0.45 inches. Stem hole **48** may be between about 0.3 inches and about 0.6 inches in width, and in one embodiment about 0.4 inches in width. Shaft hole **45** extends downwardly through the middle of midportion **42**. Shaft hole **45** may be oval shaped and may be between about 0.2 inches and about 0.6 inches in length, preferably between about 0.3 inches and about 0.5 inches in length, and in one embodiment about 0.4 inches in length. Shaft hole **45** may be between about 0.2 inches and about 0.4

inches in width, and in one embodiment about 0.3 inches in width. Bushing hole **46** may be circular with a diameter of between about 0.2 inches and about 0.6 inches, and in one embodiment about 0.4 inches. Screw hole **62** may extend inwardly from back portion **43** of beater body **40**. Screw hole may have a length of between about 0.2 inches and about 0.6 inches, and in one embodiment about 0.4 inches. Screw hole **62** may have a diameter of between about 0.2 inches and about 0.4 inches, and in one embodiment about 0.3 inches.

As shown in FIGS. **2**, **3** and **5**, bushing **70** fits within bushing hole **46** of beater head **30** and has bushing shaft hole **72** to hold shaft **20** extending through shaft hole **45**. Bushing **70** has slot **73** and arms **74**. In one embodiment, bushing **70** has two arms **74**, drum arm **75** and screw arm **76**. Slot **73** allows arms **74** to be flexible around bushing shaft hole **72** to hold shaft **20**. When screw **60** is tightened in screw hole **62**, the tip of screw **60** may force screw arm **76** to pinch shaft **20**. The pinching action of screw arm **76** holds beater head **30** in a desired position on shaft **20**.

The outer diameter of bushing **70** may be slightly smaller than the diameter of bushing hole **46** such that bushing **70** may fit in bushing hole **46** and rotate freely therein. Shaft **20** may fit through shaft hole **45** of beater head **40** and also fit through bushing shaft hole **72** of bushing **70** when bushing **70** is in place within bushing hole **46**. The length of bushing **70** corresponds to the side thickness of midportion **42** and may be between about 0.5 inches and about 0.8 inches, preferably between about 0.6 inches and about 0.72 inches, and in one embodiment about 0.68 inches.

As shown in FIGS. **2**, **4** and **5**, in one embodiment, beater face **50** may be a separate piece from the rest of beater body **40**. Beater face **50** may have strike flange **51** and stem **52**. Strike flange **51** may include strike surface **53** which strikes the surface of a drum and beater surface **54**, which engages face surface **47** on face portion **41**. Face surface **47** may be toward the drumward side of beater head **30**. Beater face **50** must be located on the drumward side of beater head **30** in order to contact a bass drum. As shown in FIGS. **2**, **4** and **5**, stem **52** fits within stem hole **48** extending through face portion **41** and part of midportion **42**. In one embodiment, stem **52** may have double lead threads to thread into stem hole **48**. Beater face **50** may be made of plastic and may have a thickness between about 0.1 inches and about 0.3 inches, preferably between about 0.15 inches and about 0.25 inches, and in one embodiment about 0.188 inches.

As shown in FIGS. **7–9**, beater head **30** may be angularly adjustable with respect to shaft **20**. Beater head **30** may typically be perpendicular to shaft **20**, as shown in FIG. **6**, and forming perpendicular line **80** with respect to shaft **20**. Beater head **30** may have midline **85** and when it is perpendicular to shaft **20**, perpendicular line **80** and midline **85** may be juxtaposed. However, if beater head **30** is angularly swiveled about bushing **70** so that beater head is not perpendicular with shaft **20**, then perpendicular line **80** will make an angle with midline **85**. As shown in FIG. **7**, beater head **30** may be tilted towards top portion **21** and midline **85** may form angle α with perpendicular line **80**. Angle α may be between about 0 degrees and about 20 degrees, and in one embodiment about 14 degrees. As shown in FIG. **8**, beater head **30** may be tilted towards bottom portion **29** and midline **85** may form angle β with perpendicular line **80**. Angle β may be between about 0 degrees and about 20 degrees, and in one embodiment about 14 degrees.

As shown in FIG. **6**, when shaft **20** is positioned within shaft hole **45** and bushing shaft hole **72**, bushing **70** may rotate within bushing hole **46** to the range allowable by the length of shaft hole **45**. A longer length of shaft hole **45** would increase the range of both angle α and angle β. In one embodiment, a length of about 0.438 inches corresponds to a range of 14 degrees for angle α and a range of about 14 degrees for angle β.

As shown in FIGS. **9** and **10**, bass drums **100** may be different sizes. As a result, length **22** between beater head **30** and the drum pedal and angle β may need to be adjusted so strike face **53** of beater face **50** strikes drum surface **101** at the desired location for the desired sound. Positioning beater head **30** lower on upper portion **21** shortens length **22** and positioning beater head **30** higher on upper portion **21** lengthens length **22**. An advantage of adjustable bass drum beater **10** may be that lower portion **29** may be held in the same position by a drum pedal. Thus, lower portion **29** may never contact the drum pedal when bass drum beater **10** swings toward drum surface **101** regardless of the position of beater head **30** on shaft **20**.

Screw **60** contacts bushing **70**, specifically as screw **60** is screwed into screw hole **62** the tip of screw **60** pushes against screw arm **76** and forces screw arm **76** tightly against shaft **20**. Screw **60** forces bushing **70** to pinch shaft **20** to hold beater head **30** in place both longitudinally and angularly with respect to shaft **20**. Tightening screw **60** may hold both the desired longitudinal position and the desired angular position of beater head **30** on shaft **20**. This allows very easy and fast adjustment of bass drum beater **10** because only one screw needs to be manipulated for all desired adjustments.

Since many possible embodiments may be made of the invention without departing from the scope thereof, it is understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative, and not in a limiting sense.

We claim:

1. A bass drum beater, comprising:

a shaft having a length;

a beater head adjustable and fixable to a selected position along said length;

wherein said beater head forms an angle adjustable along a range with respect to said shaft and said beater head is fixable at a selected angle within said range; and

a connector engageable to said beater head and to said shaft to secure said beater head in said position and at said angle.

2. A bass drum beater according to claim **1**, wherein said length is between about 6 inches and about 10 inches.

3. A bass drum beater according to claim **1**, wherein said beater has an axis that forms a perpendicular line with said length and wherein said range is about 20 degrees to either side of said perpendicular line.

4. A bass drum beater according to claim **2**, wherein said shaft is comprised of titanium and said beater head is comprised of aluminum.

5. A bass drum beater, comprising:

a shaft;

a beater head having a drumward side, a hole to engage said shaft;

a beater face attachable to said drumward side; and

a means for holding said beater head in a longitudinal position and in an angular position with respect to said shaft, wherein said longitudinal position and said angular position are adjustable.

6. A bass drum beater according to claim **5**, wherein said hole has an oval cross-section.

7. A bass drum beater according to claim 5, wherein said means comprises a bushing around said hole and a screw engaging said bushing.

8. A bass drum beater according to claim 7, wherein said bushing has arms in contact with said shaft, and wherein said screw forces at least one of said arms against said shaft.

9. A bass drum beater, comprising:

a shaft;

a beater head having a drumward side, a shaft hole to engage said shaft, and a bushing hole for a bushing;

a beater face attachable to said drumward side;

a bushing for holding said beater head in a selected longitudinal position and in a selected angular position within respect to said shaft, wherein said longitudinal position and said angular position are adjustable; and

a screw engaging said bushing.

10. A bass drum beater according to claim 9, wherein said bushing has arms in contact with said shaft, and wherein said screw forces at least one of said arms against said shaft.

11. A bass drum beater according to claim 9, wherein said shaft hole has an oval cross-section.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

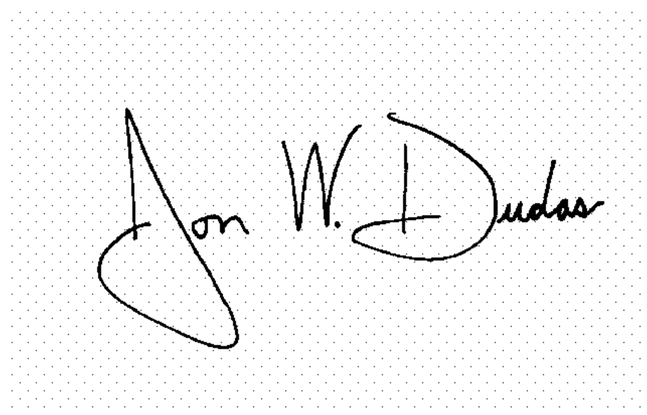
PATENT NO. : 7,211,720 B1 Page 1 of 1
APPLICATION NO. : 11/254977
DATED : May 1, 2007
INVENTOR(S) : Michael Dorfman, George Szwaya and Robert E. Szwaya

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 6, line 3, the word "within" should be changed to --with--.

Signed and Sealed this

Nineteenth Day of June, 2007



JON W. DUDAS
Director of the United States Patent and Trademark Office